Vision loss trial based on embryonic stem cells begins

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The FDA has given the green light to the second trial based on embryonic stem cells - this one for a genetic form of blindness called Stargardt's Macular Degeneration. The treatment, developed by Advanced Cell Technology, involves replacing the the layer of the retina damaged by the disease, called the retinal pigment epithelium, with new RPE cells derived from embryonic stem cells.

This approach is similar to one under development by a CIRM macular degeneration disease team led by Mark Humayun at the University of Southern California.

Nature wrote about the ACT trial:

" In the trial, 12 individuals at several US medical centres will receive injections of the cells directly into the eye to test the safety of the procedure. (Although the disease begins to take its toll at around 6 years of age, the trial will start with patients who are over 18.)

The small size of the trial is typical for a Phase I/II trial, which is primarily looking to ensure that the technique is safe before testing it in more people. Nature went on to quote ACT's chief scientific officer Robert Lanza:

" The advantage, of course, is that we're talking about a very small number of cells going into a very local area," he says. Using instruments that can track a single retinal cell in the eye in real time, the researchers will also be able to easily monitor patients' progress.

"Also, with the eyes there are very objective tests for visual acuity," he notes, "so we can measure performance gains very objectively." Tracking improvement after spinal cord injury, on the other hand, is notoriously tricky.

This video features Mark Humayun discussing his macular degeneration work:

A.A.

Tags: Disease Team, Humayun, university of southern california, macular degeneration

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